



# Environmental Fact Sheet

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## Non-Conformance Penalties for Heavy-Duty Diesel Engines

*The U.S. Environmental Protection Agency (EPA) is proposing non-conformance penalties that would be available to manufacturers with heavy-duty diesel engines unable to meet the 2004 model year hydrocarbon plus nitrogen oxides emission standard. These penalties allow a manufacturer to produce and sell non-conforming engines upon payment of a penalty. The penalty, which is assessed on a per-engine basis, varies with the certified emission level for the engine family involved.*

### What are Non-conformance Penalties?

Non-conformance penalties (NCPs) are monetary penalties that allow a vehicle or engine manufacturer to sell engines that do not meet the emission standards. Under a penalty structure previously established by regulation, manufacturers may choose to pay a penalty on a per-engine basis rather than comply with the applicable standard.

The Clean Air Act outlines the key requirements of an NCP program. The Act requires that:

- The penalties increase with the degree of non-compliance with the emission standard and that the penalties increase over time.
- Emissions under an NCP program may not go above an upper limit established by regulation.
- The NCPs remove any competitive disadvantage that might otherwise accrue to a manufacturer that is complying with the standards.

## **Which Engines and Vehicles would be Covered?**

The non-conformance penalties (NCPs) would be available for 2004 and later model year heavy-duty highway diesel engines, including engines used in urban buses. EPA is proposing NCPs for the 2004 non-methane hydrocarbon plus nitrogen oxides (NMHC+NO<sub>x</sub>) standard for highway heavy-duty diesel engines. This standard is 2.5 grams per brake-horsepower-hour of NMHC+NO<sub>x</sub>.

## **Why is EPA Proposing these Penalties?**

NCPs are authorized for heavy-duty engines under section 206(g) of the Clean Air Act. A 1985 rulemaking established three basic criteria for determining the eligibility of emission standards for NCPs in any given model year. First, the emission standard in question must become more difficult to meet. Second, substantial work must be required in order to meet the emission standard. Third, a “technological laggard” must be likely to develop. A technological laggard is considered to be a manufacturer who cannot meet a particular emission standard due to technological (not economic) difficulties and who, in the absence of NCPs, might be forced from the marketplace.

EPA now believes that these three criteria have been satisfied with respect to the NMHC+NO<sub>x</sub> standard that applies to 2004 and later model year heavy-duty diesel engines. Therefore, it is appropriate at this time to propose NCPs for this emission standard.

## **What are the Proposed Requirements?**

The actual penalties that a manufacturer could pay for each non-complying engine are determined by formulas that already exist in the federal regulations. The proposal specifies certain parameters that, when plugged into the formulas along with the emissions of the engine and the incorporation of other factors, will determine the amount a manufacturer must pay. Key parameters that determine the NCP a manufacturer must pay are the estimated average cost of compliance, the estimated 90<sup>th</sup> percentile cost of compliance, and the degree to which the engine exceeds the emission standard. Engine emissions may not exceed an upper limit designated in the proposed regulations. The table below provides some examples of the proposed calculated penalties at several emission rates.

## Proposed Penalty Rates at Several Example Emission Levels<sup>1</sup>

NMHC+NOx Compliance Level (g/bhp-hr) <sup>2</sup>	Heavy-Duty Service Class			
	Light	Medium	Heavy	Urban Bus
2.5	\$0	\$0	\$0	\$0
3.0	\$1,162	\$1,170	\$4,680	\$3,185
3.5	\$1,644	\$2,340	\$9,043	\$5,042
4.0	\$2,127	\$3,759	\$10,193	\$6,081
4.5	\$2,610	\$6,870	\$11,342	\$7,120
6.0	N/A <sup>3</sup>	N/A <sup>3</sup>	\$14,790	N/A <sup>3</sup>

1 The proposed penalties are for exceedance of the 2.5 gram per brake horsepower-hour NMHC+NOx standard. They are expressed in 2001 dollars and are for the first year of non-compliance (the penalties increase with subsequent years).

2 g/bhp-hr = grams per brake horsepower-hour.

3 For the light and medium heavy-duty service classes, and for urban buses, the proposed upper limit is 4.5 g/bhp-hr, therefore no NCPs are applicable to emissions at 6.0 g/bhp-hr. For the heavy heavy-duty diesel engine service class, the proposed upper limit is 6.0 g/bhp-hr.

## Health and Environmental Benefits

NCPs have a minimal environmental impact. They provide flexibility that fosters long-term improvement in emissions without driving manufacturers out of the market. We can not predict how many manufacturers would make use of the proposed NCPs, therefore the emission impact can not be quantified. These impacts, nevertheless, should be short-term in nature, because the structure of the penalties, by increasing over time, discourages long-term use, and because the penalty figures are high enough such that long-term use is not a viable option for the manufacturers.

## Costs

NCPs generally have minimal adverse economic impacts. Use of them is optional; manufacturers have the flexibility and will likely choose whether or not to use NCPs based on their ability to comply with emissions standards. Manufacturers that choose to make use of the NCPs will incur those costs, which are based, in part, on the cost of complying with

the emission standards. Without NCPs, a manufacturer that has difficulty meeting the standards has only two alternatives: fix the non-conforming engines, perhaps at a prohibitive cost, or prevent their introduction into commerce. The availability of NCPs provides manufacturers with a third alternative, yet protecting the manufacturer that has chosen to incur the costs of complying with the standards.

### **Public Participation Opportunities**

The proposal and related documents are available at [www.epa.gov/otaq](http://www.epa.gov/otaq). We welcome your comments on this proposal. For instructions on submitting written comments, please see the *Federal Register* notice. You may submit written comments until February 28, 2002. Please refer to Docket No. A-2001-25. The address for submitting written comments is:

Margaret Borushko (Docket No. A-2001-25),  
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A public hearing will be held near Washington, DC on January 29, 2002. Detailed information about the hearings will be published in the *Federal Register* and at [www.epa.gov/otaq](http://www.epa.gov/otaq).